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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor: Webb et al.

Group Art Unit: 2153

Serial No.: 09/394,536

Examiner: A. Choudhary

Filed: September 10, 1999

Confirmation No.: 4362

For: METHODS, SYSTEMS, AND COMPUTER PROGRAM PRODUCTS THAT  
REQUEST UPDATED HOST SCREEN INFORMATION FROM HOST  
SYSTEMS IN RESPONSE TO NOTIFICATION BY SERVERS

Date: September 1, 2004

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Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**TRANSMITTAL OF APPEAL BRIEF  
(PATENT APPLICATION--37 C.F.R. § 1.192)**

1. Transmitted herewith, in triplicate, is the APPEAL BRIEF for the above-identified application, pursuant to the Notice of Appeal filed on May 27, 2004.

2. This application is filed on behalf of  
☐ a small entity.

3. Pursuant to 37 C.F.R. § 1.17(c), the fee for filing the Appeal Brief is:  
☐ small entity \$165.00  
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☒ Please charge IBM Deposit Account No. 09-0461 in the amount of \$330.00.

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Respectfully submitted,

  
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Robert N. Crouse

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**APPELLANT'S BRIEF ON APPEAL UNDER 37 C.F.R. §1.192**

Sir:

This Appeal Brief is filed pursuant to the "Notice of Appeal to the Board of Patent Appeals and Interferences" mailed May 27, 2004.

**Real Party In Interest**

The real party in interest is assignee International Business Machines, Inc.,  
Armonk, New York.

**Related Appeals and Interferences**

Appellants are aware of no appeals or interferences that would be affected by the present appeal.

**Status of Claims**

Appellants appeal the final rejection of Claims 1-7 and 19-36, which as of the filing date of this Brief remain under consideration. The attached Appendix A presents the claims at issue as finally rejected in the Final Official Action of March 1, 2004 (the Final Action).



### **Status of Amendments**

There have been no amendments filed subsequent to the Final Official Action. The attached Appendix A presents the claims as amended by the Amendment of November 25, 2003.

### **Summary of the Invention**

The invention generally relates to terminal emulation for legacy host systems where a synchronous communication model can be used. For example, the terminal emulation may be provided by establishing a first connection between a client application and a server application. The server application can provide updated host screen information to the client application in response to requests from the client application by establishing a second connection between a monitor application and the server application. Notification of the availability of updated host screen information is received via the second connection at the monitor application and a request for updated host screen information is transmitted over the first connection in response to receiving the notification. The requested updated host screen information is received at the client application and displayed utilizing the client application.

By utilizing the second connection to the client, the server may notify the client of the availability of host screen information and, thereby, prompt the client to request the host screen information using the first, synchronous, connection. Because client application requests the updated host screen information in response to the notification from the server, the need for the user to manually request updated host screen information may be reduced.

For example, in one embodiment, the monitoring application which monitors the second connection for notifications may be relatively small notification code or an applet that is embedded in a web page description (HTML) provided to the client. When executed, the notification code establishes a notification connection to the server. When the notification code receives notification of the availability of updated host screen information, the notification code signals the client application and terminates. *See, for example, Application, pages 2-3.*

### Issues

Are Claims 1-7 and 19-36 properly rejected under 35 U.S.C. § 103(a) as unpatentable over United States Patent No. 5,940,075 to Mutschler III et al. (hereinafter "Mutschler") in view of United States Patent No. 5,950,866 to Nakabayashi et al. (hereinafter "Nakabayashi")?

### Grouping of Claims

Group I: Claims 1-7 and 19-36 stand or fall together.

### Argument

#### I. Introduction

The Group I Claims (Claims 1-7 and 19-36) stand rejected under 35 U.S.C. § 103(a) over Mutschler in view of Nakabayashi. A determination under § 103 that an invention would have been obvious to someone of ordinary skill in the art is a conclusion of law based on fact. *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1593, 1 U.S.P.Q.2d 1593 (Fed. Cir. 1987), *cert. denied*, 107 S.Ct. 2187. After the involved facts are determined, the decision maker must then make the legal determination of whether the claimed invention as a whole would have been obvious to a person having ordinary skill in the art at the time the invention was made. *See Panduit*, 810 F.2d at 1596. The United States Patent and Trademark Office (USPTO) has the initial burden under § 103 to establish a *prima facie* case of obviousness. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988).

To establish a *prima facie* case of obviousness, the prior art reference or references when combined must teach or suggest *all* the recitations of the claims, and there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. *See M.P.E.P.* § 2143. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *See M.P.E.P.* § 2143.01(citing *In re Mills*, 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990)). As emphasized by the Court of Appeals for the Federal Circuit, to support combining references, evidence of a suggestion, teaching, or motivation to combine



must be clear and particular, and this requirement for clear and particular evidence is not met by broad and conclusory statements about the teachings of references. *In re Dembiczak*, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999). In another decision, the Court of Appeals for the Federal Circuit has stated that, to support combining or modifying references, there must be particular evidence from the prior art as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed. *In re Kotzab*, 55 U.S.P.Q.2d 1313, 1317 (Fed. Cir. 2000).

Furthermore, as stated by the Federal Circuit with regard to the selection and combination of references:

This factual question of motivation is material to patentability, and could not be resolved on subjective belief and unknown authority. It is improper, in determining whether a person of ordinary skill would have been led to this combination of references, simply to "[use] that which the inventor taught against its teacher." W.L. Gore v. Garlock, Inc., 721 F.2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983). Thus the Board must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the agency's conclusion....

*In re Sang Su Lee*, 277 F.3d 1338, 1343 (Fed. Cir. 2002).

The patentability of the pending claims is discussed further below.

## **II. The Group I Claims Are Patentable Over the Cited References**

As briefly discussed above, Claims 1-7 and 19-36 stand rejected over Mutschler in view of Nakabayashi. Appellants respectfully submit that even if Mutschler and Nakabayashi were combined, the combination would not disclose or suggest all the recitations of the claims as required under Section 103. For example, the combination of Mutschler and Nakabayashi would not disclose or suggest

establishing a first connection between the client application and a server application, wherein the server application provides updated legacy host screen information to the client application in response to requests from the client application using an HTTP request-response communications model, **wherein the updated legacy host screen information is based on asynchronously generated information** formatted for a character terminal of a host legacy system as part of terminal emulation

provided between the client application and the host legacy system;  
establishing a second connection between a monitor application and the server application;  
receiving a notification of the availability of **updated legacy host screen information** via the second connection at the monitor application using the HTTP request-response communications model;  
requesting the **updated legacy host screen information** over the first connection using HTTP request-response communications model responsive to receiving the notification;  
receiving the requested **updated legacy host screen information** at the client application; and displaying the received **updated host screen information** utilizing the client application.

Claim 1 (independent Claims 19, 23, 30 and 34 include similar recitations).

As demonstrated by the above emphasized recitations of independent Claim 1, a combination of Mutschler and Nakabayashi would not disclose or suggest the various claimed operations applied to **updated legacy host screen information based on asynchronously generated information**. In particular, as understood by Appellants, Mutschler relates to the form of information from a legacy host system displayed on a client. In other words, Mutschler discusses how data is presented on the screen of a client and does not address how asynchronously generated information is communicated to the client. For example, Mutschler makes clear that the central focus of the invention discussed therein is the **form** of how the data is presented rather than how information is communicated as demonstrated by the following passage from the "Background" of Mutschler:

In order to "Web-enable" such a legacy application, i.e. allow it to work within the World Wide Web internet or intranet environment, it is necessary that: 1) the host application continue to be unaware that an agency is intervening in the display of its Forms and 2) these Forms need to have a "look and feel" similar to the PC version in order that development and training costs be minimized.

The current state of the art for displaying Forms in the World Wide Web is the Hypertext Markup Language (HTML). This language is an instance of SGML (Standard Generalized Markup Language). HTML has the concept of the FORM, which is a means of displaying GUI controls for user interaction. When the user submits the HTML Form, the contents of these controls are gathered by the Web browser and sent as part of a Universal



Resource Locator (URL) sent to the Web server in the form of control name/control value pairs.

The HTML FORM construct was originally considered for implementation of PowerClient product Forms in the web environment and considerable effort was expended in an effort to make it work. However, it was ultimately found that there were numerous shortcomings of this approach, foremost of which is the inability to simultaneously specify the caption for a control and the name of the host data element with which it is associated. This limitation made it impossible to use the HTML FORM construct to support PowerClient product legacy forms in the web environment. Moreover, while the set of available components included most of the PowerClient product's GUI Control set, there were still some which either were not supported or were of limited functionality vis-a-vis the PowerClient product set. Additionally, there was no way to control where on the Form the control was positioned. HTML Version 2.0 added the concept of FRAMES, which gives some control over positioning. These were evaluated for PowerClient product's environment and found insufficient to control locations on the PowerClient product Form.

*U.S. Patent No. 5,940,075; Column 2, line 62 – Column 3, line 32.*

As demonstrated by the above-cited passage of the "Background" from Mutschler, the focus therein is how the information is displayed and not how asynchronous information is communicated.

Moreover, as understood by Appellants, no part of Mutschler discusses how asynchronously generated updated legacy host screen information is provided from the host to the client. For example, in discussing the operation of the systems therein, Mutschler states that:

The SCL language is used by the PowerClient product to control the display of Forms in the PC environment. Since this language completely characterizes a legacy Form for the purposes of display in the normal PC environment, including the legacy host application data field with which each GUI element is associated, a decision was made to use it as the means by which the Form is displayed in a Web browser. **SCL Text is embedded into an HTML page for display in a Web browser environment, and the data entered by the user is returned to the legacy application.**

*U.S. Patent No. 5,940,075; Column 4, line 45 – line 55 (emphasis added).*

As demonstrated by the above emphasized portion of Mutschler, Mutschler appears to take as a given that once the information is initially generated by the legacy host system, it is not **updated**. Therefore, as understood by Appellants, Mutschler does not disclose or suggest the communication of updated legacy host screen information (based on asynchronously generated information).

As understood by Appellants, Nakabayashi also does not disclose or suggest the recitations shown above to be missing from Mutschler. Nakabayashi relates to the management of updated web pages, not to terminal emulation. In particular, Nakabayashi relates to a system for providing updated web pages (including hypertext) to a client by monitoring updates to those web pages and then providing the web pages to the client, for example, in response to a specific request by the client. *Summary of Nakabayashi*. For example, Nakabayashi relates to the management of hypertext:

As discussed previously, the access management unit reads the **hypertext data** from the database 410 via the data management unit and utilizes the function of the browser to display the data on the screen of the monitor 76 via the user I/F unit 200. The user can sequentially look at the **respective pages** according to the links off line, in the same manner as that carried out on line. In the example of FIG. 35(a), the access management unit first displays the **home page** and then jumps to the linked pages A, B, and C, and further to the subsequent **linked pages**. A link to a non-accessed **Web server** is not rewritten but remains unchanged, so that the user can look at the data on line. This structure enables the user to read the contents of data without being specifically conscious of the position of the data. *See Nakabayashi, column 44, lines 1 - 44.*  
[Emphasis added.]

As shown by the above emphasized portions of the cited passage, Nakabayashi discusses the management of hypertext data which is associated with Web pages, not **updated legacy host screen information is based on asynchronously generated information formatted for a character terminal of a host legacy system as part of terminal emulation provided between the client application and the host legacy system** as recited in the claims. In particular, as understood by Appellants, the Web pages monitored by the server in Nakabayashi are made up of HTML code, not information "formatted for a character terminal display" as recited in the amended

independent claims. As further evidence, Figure 34 of Nakabayashi shows a segment of HTML code which is commonly referred to as hypertext data. Accordingly, Nakabayashi also does not disclose or suggest the recitations of the independent claims shown to be missing from Mutschler. Therefore, even if Mutschler and Nakabayashi were combined, the combination would not disclose or suggest all of the recitations of the claims as required under section 103 as outlined above.

Furthermore, there is no clear and particular evidence of a motivation or suggestion to combine the cited references as required under § 103. In particular, Mutschler relates to displaying legacy host data as a form on a Webpage whereas Nakabayashi does not even mention legacy host systems or providing terminal emulation for those systems. Accordingly, there is no clear and particular evidence of a motivation or suggestion to combine these references as they appear to solve completely different problems.

Mutschler also appears to use the type of persistent TCP/IP socket connection discussed in relation to another cited reference (*i.e.*, the Butts reference discussed in Appellant's response dated November 25, 2003), which does not disclose an http response-request communications model. In particular, Mutschler states that "the network connection 13 may typically comprise a TCP/IP or any other proprietary protocol. As understood by Appellants, persistent TCP/IP socket connections actually avoid the asynchronous communications problems discussed above in reference to the http communications discussed in Nakabayashi. As understood by Appellants, a persistent TCP/IP socket connection is meant to avoid closing a connection such that new connections need not be established for further communications. In other words, use of persistent TCP/IP socket connections is a way to avoid the overhead of using http. Therefore, the system in Mutschler would not need the communications approach used in Nakabayashi.

Furthermore, the Official Action has not cited any clear and particular evidence of why one of ordinary skill in the art would have been motivated to combine these particular references. To the contrary, it appears that the Official Action simply states that Mutschler and Nakabayashi are analogous or similar to one another so that one of ordinary skill in the art would have "readily recognized" the desirability of the combination. The Official Action also states that one of ordinary

skill would have recognized the "desirability of modifying the system disclosed by Mutschler by employing the features shown by Nakabayashi in order to monitor updates to shared information in a network system without receiving overlapping updated data" citing col. 1, lines 41-55 of Nakabayashi. Respectfully, as understood by Appellants, Nakabayashi already appears to address the problem of "overlapping data" (as demonstrated by the cited passage). Therefore, Appellants submit that the cited basis for the combination is insufficient as Nakabayashi already appears to address the problem. Accordingly, there is no clear and particular evidence for a combination of Mutschler and Nakabayashi as required under section 103. Respectfully, this is the type of conclusory reasoning which is generally forbidden by the case law and sections of the MPEP cited above.

The dependent claims are patentable over Mutschler and Nakabayashi for at least these the reasons described above. Accordingly, Appellants respectfully request the reversal of all rejections and the allowance of all claims.

## **II. Conclusion**

In light of the above discussion, Appellant submits that the pending claims are patentable over the cited references and, therefore, requests reversal of the rejections of Claims 1-7 and 19-36.

Respectfully submitted,



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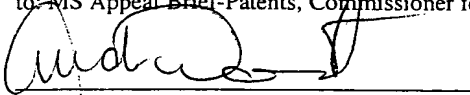
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Robert N. Crouse

**Appendix A**  
**Claims as Rejected in the**  
**Final Official Action of August 20, 2003 in Application Serial No.: 09/394,536**  
**Filed: September 10, 1999**

1. (Previously presented) A method of providing updated legacy host screen information to a client application as terminal emulation between a legacy host system and the client application the client application utilizing a request-response communications model, the method comprising:

establishing a first connection between the client application and a server application, wherein the server application provides updated legacy host screen information to the client application in response to requests from the client application using an HTTP request-response communications model, wherein the updated legacy host screen information is based on asynchronously generated information formatted for a character terminal of a host legacy system as part of terminal emulation provided between the client application and the host legacy system;

establishing a second connection between a monitor application and the server application;

receiving a notification of the availability of updated legacy host screen information via the second connection at the monitor application using the HTTP request-response communications model;

requesting the updated legacy host screen information over the first connection using HTTP request-response communications model responsive to receiving the notification;

receiving the requested updated legacy host screen information at the client application; and

displaying the received updated host screen information utilizing the client application.

2. (Original) The method of Claim 1, wherein the client application comprises a web browser and wherein the monitoring application comprises notification code.

3. (Previously presented) The method of Claim 2, wherein the notification code is provided with updated legacy host screen information, the method further comprising the steps of:

extracting the notification code from the host screen information; and  
executing the notification code.

4. (Previously presented) The method of Claim 2, wherein the updated legacy host screen information comprises a Markup Language.

5. (Previously presented) The method of Claim 1, wherein the updated legacy host screen information comprises terminal emulation information.

6. (Original) The method of Claim 1, wherein the first and second connections are conducted via a single communications link.

7. (Previously presented) The method of Claim 1, wherein the server application provides updated legacy host screen information to a second client application in response to requests from the second client application, the method further comprising:

identifying the client application that requested the updated legacy host screen information.

Claims 8-18 (Canceled).

19. (Previously presented) A system of providing updated legacy host screen information to a client application as terminal emulation between a legacy host system and the client application, the client application utilizing a request-response communications model, the system comprising:

means for establishing a first connection between the client application and a server application, wherein the server application provides updated legacy host screen information to the client application in response to requests from the client application using an HTTP request-response communications model, wherein the updated legacy host screen information is based on asynchronously generated information formatted

for a character terminal of a legacy host system as part of terminal emulation provided between the client application and the host legacy system;

means for establishing a second connection between a monitoring application and the server application;

means for receiving updated legacy host screen information from the legacy host system;

means for transmitting a notification of the availability of updated legacy host screen information to the monitoring application over the second connection using the HTTP request-response communications model responsive to receiving the updated legacy host screen information;

means for receiving a request for the updated legacy host screen information from the client application over the first connection using the HTTP request-response communications model; and

means for transmitting the received updated legacy host screen information to the client application over the first connection in response to receiving the request for the updated legacy host screen information from the client application.

20. (Original) The system of Claim 19, wherein the client application comprises a web browser and wherein the monitoring application comprises an notification code.

21. (Previously presented) The system of Claim 20, wherein the means for transmitting the received updated legacy host screen information further comprises means for incorporating the notification code in the updated legacy host screen information transmitted to the client application.

22. (Previously presented) The system of Claim 19, wherein the server application provides updated legacy host screen information to a second client application in response to requests from the second client application, the system comprising:

means for identifying the client application that requested the updated legacy host screen information.



23. (Previously presented) A computer program product that provides updated legacy host screen information to a client application as terminal emulation between a legacy host system and the client application, the client application utilizing a request-response communications model, the computer program product comprising:

a computer-readable storage medium having computer-readable program code means embodied in said medium, said computer-readable program code means comprising:

computer readable program code means for establishing a first connection between the client application and a server application, wherein the server application provides updated legacy host screen information to the client application in response to requests from the client application using an HTTP request-response communications model, wherein the updated legacy host screen information is based on asynchronously generated information formatted for a character terminal of a legacy host system as part of terminal emulation provided between the client application and the host legacy system;

computer readable program code means for establishing a second connection between a monitor application and the server application;

computer readable program code means for receiving a notification of the availability of updated legacy host screen information via the second connection at the monitor application using the HTTP request-response communications model;

computer readable program code means for requesting the updated legacy host screen information over the first connection using the HTTP request-response communications model responsive to receiving the notification;

computer readable program code means for receiving the requested updated legacy host screen information at the client application; and

computer readable program code means for displaying the received updated legacy host screen information utilizing the client application.

24. (Original) The computer program product of Claim 23, wherein the client application comprises a web browser and wherein the monitoring application comprises an notification code.

25. (Previously presented) The computer program product of Claim 24, wherein the notification code is provided with updated legacy host screen information, the computer program product further comprising:

computer readable program code means for extracting the notification code from the host screen information; and

computer readable program code means for executing the notification code.

26. (Previously presented) The computer program product of Claim 24, wherein the updated legacy host screen information comprises a Markup Language.

27. (Previously presented) The computer program product of Claim 23, wherein the updated legacy host screen information comprises terminal emulation information.

28. (Original) The computer program product of Claim 23, wherein the first and second connections are conducted via a single communications link

29. (Original) The computer program product of Claim 23, wherein the server application provides updated legacy host screen information to a second client application in response to requests from the second client application, the computer program product further comprising:

computer readable program code means for identifying the client application that requested the updated legacy host screen information.

30. (Previously presented) A computer program product of providing updated legacy host screen information to a client application as terminal emulation between a legacy host system and the client application, the client application utilizing a request-response communications model, the computer program product comprising:

a computer-readable storage medium having computer-readable program code means embodied in said medium, said computer-readable program code means comprising:

computer readable program code means for establishing a first connection between the client application and a server application, wherein the server application

provides updated legacy host screen information to the client application in response to requests from the client application using an HTTP request-response communications model, wherein the updated legacy host screen information is based on asynchronously generated information formatted for a character terminal display of a host legacy system as part of terminal emulation provided between the client application and the host legacy system;

computer readable program code means for establishing a second connection between a monitoring application and the server application;

computer readable program code means for receiving updated legacy host screen information from a host system;

computer readable program code means for transmitting a notification of the availability of updated legacy host screen information to the monitoring application over the second connection using the HTTP request-response communications model responsive to receiving the updated legacy host screen information;

computer readable program code means for receiving a request for the updated legacy host screen information from the client application over the first connection using the HTTP request-response communications model; and

computer readable program code means for transmitting the received updated legacy host screen information to the client application over the first connection in response to receiving the request for the updated legacy host screen information from the client application.

31. (Original) The computer program product of Claim 30, wherein the client application comprises a web browser and wherein the monitoring application comprises an notification code.

32. (Previously presented) The computer program product of Claim 31, wherein the computer readable program code means for transmitting the received updated legacy host screen information further comprises:

computer readable program code means for incorporating the notification code in the updated legacy host screen information transmitted to the client application.

33. (Previously presented) The computer program product of Claim 30, wherein the server application provides updated legacy host screen information to a

second client application in response to requests from the second client application, the computer program product comprising:

computer readable program code means for identifying the client application that requested the updated legacy host screen information.

34. (Previously presented) A system for displaying updated legacy host screen information utilizing a web browser as part of terminal emulation provided between the client application and the web browser, comprising:

a host server application;

a browser application configured to communicate with the host server application using an HTTP request-response communications model;

a first connection configured to provide communication between the host server application and the browser application using the HTTP request-response communications model;

a notification application operably associated with the browser application that notifies the browser application to request updated legacy host screen information from the host server application for display by the browser application using the HTTP request-response communications model, wherein the updated legacy host screen information is based on asynchronously generated information formatted for a character terminal display of a host legacy system as part of terminal emulation provided between the client application and the host legacy system; and

a second connection, established by the notification application, configured to provide communication between the host server application and the notification application using the HTTP request-response communications model.

35. (Original) A system according to Claim 24, wherein the first and second connections comprise sockets.

36. (Original) A system according to claim 34 wherein the notification application is embedded in a web page provided to the browser application by the host server application.